Volume Index

Volume 16, No. 1, January/February

Computed Tomography (Guest Editorial), William R. Hendee 5
Preprocessing X-Ray Transmission Data in CT Scanning, Michael J. Dennis, Robert G. Waggener, William D. McDavid, William H. Payne, Victor J. Sank 6
Three-Dimensional Radionuclide Tomography with Circular Ring Positron Camera, Z. H. Cho, M. Singh, J. Chan 11
In Vivo Determination of Bone Density—A Comparative Study, Norbert E. Reich, Frank E. Seidelmann, Ray R. Tubbs, William MacIntyre. 20
Computerized Tomography Using Video Techniques, Norman A. Baily 23
Acceptance Testing of a Computerized Tomographic Scanner, J. Thomas Payne, Edwin C. McCullough, Thomas Stone, Eugene Gedgaudas 28
The Commissioning of Computed-Tomography Scanners—An Overview, Leland R. Kirkland, Tommie J. Morgan 32
Engineering Status of Computerized Tomographic Scanning, D. P. Boyd, M. T. Korobkin, A. Moss. 37
Optical Processing in Radionuclide Tomographic Image Reconstruction, David B. Kay, Brian J. Thompson. 45
Development of a Phantom for Evaluation and Assurance of Image Quality in CT Scanning, David J. Goodenough, Kenneth E. Weaver, David O. Davis. 52
A Night Sky Model for Satellite Search Systems, Gerald M. Daniels 66
How to Build a Speckle Interferometer, Arthur M. Schneiderman, Douglas P. Karo 72
Interferometric Investigations of Rotational Raman Spectra of Gases, J. J. Barrett 85
Contribution of Particles Pollution to Visibility, Jacob Politch 80
Prisms for Producing Slit Beams from a Laser, W. H. Steel. 83

Volume 16, No. 2, March/April

Ocean Optics (Guest Editorial), L. E. Mertens, L. F. Drummeter. 111
Diffusion of Light in the Sea, W. H. Wells. 112
Metrical Fundamentals of Underwater Lens System, Gomer T. McNeil 128
Incoherent Underwater Optical Sources, M. Geller 140
Blue-Green Lasers for Ocean Optics, M. B. White 145
Optical Design for Underwater Television Viewing Systems, Joseph B. Hughes 152
Remote Sensing of Ocean Color, W. A. Hovis, K. C. Leung. 158
Limiting Range of Detection through Water in a Nearly Coaxial Optical Transmitter-Receiver System, Milton Green 167
Passive Pulse Shaping Using Delayed Superposition, Chandrasekhar Roychoudhuri. 173
A Practical Method for Holographic Interference Fringe Assessment, H. K. Liu, R. L. Kurtz 176
An Improved Light Pen for Storage Oscilloscopes, P. Mancini, A. Riva, A. Benassi 187
Photorefractive Materials for Optical Storage and Display, Dae M. Kim, T. A. Rabson, Rajiv R. Shah, F. K. Tittel. 189
Doppler-Free Two-Photon Spectroscopy Applied to Molecular Electronic Transitions, Jerry A. Gelbwachs, John E. Wessel . . . 197
New Laser Techniques for Time-Resolved Spectroscopy, A. H. Zewail 206
The Integrated Radiance of Flashbulbs, B. F. Hochheimer, J. L. Calkins 212
Optical Signal Processor Terminology, Bernard Vatz 214

Volume 16, No. 3, May/June

Electro-Optical Imaging (Guest Editorial), G. O. Sauermann 223
Can Solid-State Imaging Devices Replace Television Camera Tubes?, James A. Hall 224
Direct Coupling of Five-Micrometer (Hg,Cd)Te Photovoltaic Detector and a CCD Multiplexer, Sato Iwasa 233
(Hg,Cd)Te Photodiodes for Detection of Two-Micrometer Infrared Radiation, Timothy J. Tredwell 237
Radiometric Accuracy in a Forward Looking Infrared System, Irving R. Abel 241
Spaceborne Astronomy with Electro-Optical Image Sensors, William C. Bradley 249
Application of the High Resolution Return Beam Vidicon, Michael J. Cantella 257
Detecting Photoelectron Images with Semiconductor Arrays for Multichannel Photon Counting, John F. Choisser. 262
Techniques for Evaluating Charge Coupled Imagers, S. B. Campana. 267
Infrared Charge Transfer Devices—The Silicon Approach, Richard D. Nelson 275
Remote Measurement of Gases Using Discretely Tunable Infrared Lasers, Edward R. Murray 284
Polarizers for Liquid Crystal Displays, Sidney J. Baum 291
DKDP (Potassium Dideuterium Phosphate) Light Valves, David Casasent 295
A Device for Checking Alignment of Fluoroscopic Systems, Pei-Jan Paul Lin. 302
Photovoltaic Energy Conversion Using Concentrated Sunlight, E. L. Burgess. 305
Possible Use of the Mach-Zehnder Heterodyne Interferometer as a Gyroscope, M. J. Lavan, G. E. Van Damme, W. K. Cadwallender 313

Volume 16, No. 4, July/August

Metal Optics (Guest Editorial), James C. Wyant 319
Basic Properties of Metal Optics, William P. Barnes, Jr. 320
Machinability Studies of Infrared Window Materials and Metals, J. B. Arnold, T. O. Morris, R. E. Sladky, P. J. Steger. 324
Observations on the Polishing of Metals, Robert E. Parks, Richard E. Sumner, Johannes T. Appels 332
Ion Polishing of Metal Surfaces, R. A. Hoffman, W. J. Lange 338
Machining Nonconventional-Shaped Optics, J. B. Arnold, R. E. Sladky, P. J. Steger, N. D. Woodall, T. T. Saito 347
Design and Fabrication of a Nonlinear Waxicon, Dennis N. Mansell, Theodore T. Saito . . 355
Measurement of the Finish of Diamond-Turned Metal Surfaces by Differential Light Scattering, E. L. Church, H. A. Jensinson, J. M. Zavada 360
Optical Figure Inspection of Diamond-Turned Metal Mirrors, R. N. Shagam, R. E. Sladky, J. C. Wyant 375
Metal Optics in CO_2 Laser Fusion Systems, W. H. Reichelt, D. J. Blevins, W. C. Turner 381
Applications of Diamond Turning to Infrared Optical Systems, Floyd E. Johnson, Theodore T. Saito 387
Time-Resolved Spectroscopy of Laser-Initiated Metal Combustion, J. C. Moulder, A. F. Clark 393
Calibration of Photographic Film for the Measurement of Q-Switched Ruby-Laser Energy, C. G. Lehr, J. R. Peters, D. B. Mento. . . 399
Optical Signal Processing Applications of the Folded Spectrum, David Casasent, Richard Kessler. 402
Virometer: Real Time Virus Detection and Identification in Biological Fluids, Tomas Hirschfeld, Myron J. Block 406
Optically Projected X-Ray Images from a Sealed Chamber Ionography System, Philip W. Walton 408
Terrestrial Measurement of the Performance of High-Rejection Optical Baffling Systems, John C. Kemp, Clair L. Wyatt. 412
Calibration Procedure for Extending the Versatility of Thermovision Systems, Rufus E. Bruce, William E. Shaw, Joseph H. Pierluissi 417

Volume 16, No. 5, September/October

Acousto-Optics (Guest Editorial), Joseph B. Houston, Jr., Robert M. Montgomery, Paul H. Carr 425
Motion Limitations of an Acoustic Holographic System Utilizing a Scanned Linear Array, L. Schlussler, A. E. Coello-Vera, Wade J. Fontana 426
Opto-Acoustic Transducers for Potentially Sensitive Ultrasonic Imaging, Keith Wang, Vance Burns, Glen Wade, Scott Elliott 432
New Materials for Surface Acoustic Wave (SAW) Devices, Robert M. O'Connell, Paul H. Carr 440
Light Scattering from Surface Acoustic Waves on Y-Z Lithium Niobate, G. I. Stegeman. 446
Design Procedure for Wide Bandwidth Acousto-

Volume Index

Volume 16, No. 1, January/February

Computed Tomography (Guest Editorial), William R. Hendee 5
Preprocessing X-Ray Transmission Data in CT Scanning, Michael J. Dennis, Robert G. Waggener, William D. McDavid, William H. Payne, Victor J. Sank 6
Three-Dimensional Radionuclide Tomography with Circular Ring Positron Camera, Z. H. Cho, M. Singh, J. Chan 11
In Vivo Determination of Bone Density—A Comparative Study, Norbert E. Reich, Frank E. Seidelmann, Ray R. Tubbs, William MacIntyre. 20
Computerized Tomography Using Video Techniques, Norman A. Baily 23
Acceptance Testing of a Computerized Tomographic Scanner, J. Thomas Payne, Edwin C. McCullough, Thomas Stone, Eugene Gedgaudas 28
The Commissioning of Computed-Tomography Scanners—An Overview, Leland R. Kirkland, Tommie J. Morgan 32
Engineering Status of Computerized Tomographic Scanning, D. P. Boyd, M. T. Korobkin, A. Moss. 37
Optical Processing in Radionuclide Tomographic Image Reconstruction, David B. Kay, Brian J. Thompson. 45
Development of a Phantom for Evaluation and Assurance of Image Quality in CT Scanning, David J. Goodenough, Kenneth E. Weaver, David O. Davis. 52
A Night Sky Model for Satellite Search Systems, Gerald M. Daniels 66
How to Build a Speckle Interferometer, Arthur M. Schneiderman, Douglas P. Karo 72
Interferometric Investigations of Rotational Raman Spectra of Gases, J. J. Barrett 85
Contribution of Particles Pollution to Visibility, Jacob Politch 80
Prisms for Producing Slit Beams from a Laser, W. H. Steel. 83

Volume 16, No. 2, March/April

Ocean Optics (Guest Editorial), L. E. Mertens, L. F. Drummeter. 111
Diffusion of Light in the Sea, W. H. Wells. 112
Metrical Fundamentals of Underwater Lens System, Gomer T. McNeil 128
Incoherent Underwater Optical Sources, M. Geller 140
Blue-Green Lasers for Ocean Optics, M. B. White 145
Optical Design for Underwater Television Viewing Systems, Joseph B. Hughes 152
Remote Sensing of Ocean Color, W. A. Hovis, K. C. Leung. 158
Limiting Range of Detection through Water in a Nearly Coaxial Optical Transmitter-Receiver System, Milton Green 167
Passive Pulse Shaping Using Delayed Superposition, Chandrasekhar Roychoudhuri. 173
A Practical Method for Holographic Interference Fringe Assessment, H. K. Liu, R. L. Kurtz 176
An Improved Light Pen for Storage Oscilloscopes, P. Mancini, A. Riva, A. Benassi 187
Photorefractive Materials for Optical Storage and Display, Dae M. Kim, T. A. Rabson, Rajiv R. Shah, F. K. Tittel. 189
Doppler-Free Two-Photon Spectroscopy Applied to Molecular Electronic Transitions, Jerry A. Gelbwachs, John E. Wessel . . . 197
New Laser Techniques for Time-Resolved Spectroscopy, A. H. Zewail 206
The Integrated Radiance of Flashbulbs, B. F. Hochheimer, J. L. Calkins 212
Optical Signal Processor Terminology, Bernard Vatz 214

Volume 16, No. 3, May/June

Electro-Optical Imaging (Guest Editorial), G. O. Sauermann 223
Can Solid-State Imaging Devices Replace Television Camera Tubes?, James A. Hall 224
Direct Coupling of Five-Micrometer (Hg,Cd)Te Photovoltaic Detector and a CCD Multiplexer, Sato Iwasa 233
(Hg,Cd)Te Photodiodes for Detection of Two-Micrometer Infrared Radiation, Timothy J. Tredwell 237
Radiometric Accuracy in a Forward Looking Infrared System, Irving R. Abel 241
Spaceborne Astronomy with Electro-Optical Image Sensors, William C. Bradley 249
Application of the High Resolution Return Beam Vidicon, Michael J. Cantella 257
Detecting Photoelectron Images with Semiconductor Arrays for Multichannel Photon Counting, John F. Choisser. 262
Techniques for Evaluating Charge Coupled Imagers, S. B. Campana. 267
Infrared Charge Transfer Devices—The Silicon Approach, Richard D. Nelson 275
Remote Measurement of Gases Using Discretely Tunable Infrared Lasers, Edward R. Murray 284
Polarizers for Liquid Crystal Displays, Sidney J. Baum 291
DKDP (Potassium Dideuterium Phosphate) Light Valves, David Casasent 295
A Device for Checking Alignment of Fluoroscopic Systems, Pei-Jan Paul Lin. 302
Photovoltaic Energy Conversion Using Concentrated Sunlight, E. L. Burgess. 305
Possible Use of the Mach-Zehnder Heterodyne Interferometer as a Gyroscope, M. J. Lavan, G. E. Van Damme, W. K. Cadwallender 313

Volume 16, No. 4, July/August

Metal Optics (Guest Editorial), James C. Wyant 319
Basic Properties of Metal Optics, William P. Barnes, Jr. 320
Machinability Studies of Infrared Window Materials and Metals, J. B. Arnold, T. O. Morris, R. E. Sladky, P. J. Steger. 324
Observations on the Polishing of Metals, Robert E. Parks, Richard E. Sumner, Johannes T. Appels 332
Ion Polishing of Metal Surfaces, R. A. Hoffman, W. J. Lange 338
Machining Nonconventional-Shaped Optics, J. B. Arnold, R. E. Sladky, P. J. Steger, N. D. Woodall, T. T. Saito 347
Design and Fabrication of a Nonlinear Waxicon, Dennis N. Mansell, Theodore T. Saito . . 355
Measurement of the Finish of Diamond-Turned Metal Surfaces by Differential Light Scattering, E. L. Church, H. A. Jensinson, J. M. Zavada 360
Optical Figure Inspection of Diamond-Turned Metal Mirrors, R. N. Shagam, R. E. Sladky, J. C. Wyant 375
Metal Optics in CO_2 Laser Fusion Systems, W. H. Reichelt, D. J. Blevins, W. C. Turner 381
Applications of Diamond Turning to Infrared Optical Systems, Floyd E. Johnson, Theodore T. Saito 387
Time-Resolved Spectroscopy of Laser-Initiated Metal Combustion, J. C. Moulder, A. F. Clark 393
Calibration of Photographic Film for the Measurement of Q-Switched Ruby-Laser Energy, C. G. Lehr, J. R. Peters, D. B. Mento. . . 399
Optical Signal Processing Applications of the Folded Spectrum, David Casasent, Richard Kessler. 402
Virometer: Real Time Virus Detection and Identification in Biological Fluids, Tomas Hirschfeld, Myron J. Block 406
Optically Projected X-Ray Images from a Sealed Chamber Ionography System, Philip W. Walton 408
Terrestrial Measurement of the Performance of High-Rejection Optical Baffling Systems, John C. Kemp, Clair L. Wyatt. 412
Calibration Procedure for Extending the Versatility of Thermovision Systems, Rufus E. Bruce, William E. Shaw, Joseph H. Pierluissi 417

Volume 16, No. 5, September/October

Acousto-Optics (Guest Editorial), Joseph B. Houston, Jr., Robert M. Montgomery, Paul H. Carr 425
Motion Limitations of an Acoustic Holographic System Utilizing a Scanned Linear Array, L. Schlussler, A. E. Coello-Vera, Wade J. Fontana 426
Opto-Acoustic Transducers for Potentially Sensitive Ultrasonic Imaging, Keith Wang, Vance Burns, Glen Wade, Scott Elliott 432
New Materials for Surface Acoustic Wave (SAW) Devices, Robert M. O'Connell, Paul H. Carr 440
Light Scattering from Surface Acoustic Waves on Y-Z Lithium Niobate, G. I. Stegeman. 446
Design Procedure for Wide Bandwidth Acousto-

Optic Modulator,
J. R. Boyd, E. H. Young, S. K. Yao. . . . 452
Tunable Acousto-Optic Filters: An Overview,
I. C. Chang. 455
Spectrum Analysis Using Acousto-Optic Devices,
D. L. Hecht 461
A Review of Acousto-Optic Signal Correlators,
Robert A. Sprague 467
An Integrated Optical RF Spectrum Analyzer,
M. C. Hamilton, D. A. Wille, W. J. Miceli. 475
Color Edge Detection,
Guner S. Robinson 479
A Versatile Radiometer for Infrared Emission Measurements of the Atmosphere and Targets,
Ronald J. Huppi. 485
Laser Processes in Preventive Dentistry,
R. Boehm, T. Baechler, J. Webster, S. Janke 493
An Educated Ray Trace Approach to Solar Tower Optics,
Lorin L. Vant-Hull 497
The NASA High-Power Carbon Dioxide Laser—A Versatile Tool for Laser Applications,
R. B. Lancashire, D. L. Alger, E. J. Manista, J. G. Slaby, J. W. Dunning, R. M. Stubbs 505
Frequency-Mixing Detection of Polarization-Modulated Light Using Different Periodic Analyzers,
R. M. A. Azzam 513
Detecting Impurities in Liquids with Moire Patterns,
R. G. Frieser, M. D. Reeber 518
Simple Full-View Rainbow Holograms,
P. Hariharan 520

Volume 16, No. 6, November/December

Infrared Astronomy Instruments (Guest Editorial),
Irving J. Spiro 527
Infrared Instrumentation on NASA Airborne Observatories,
N. W. Boggess 528
Rocket-Borne Infrared Astronomical Telescopes,
Kandiah Shivanandan. 532
Infrared Astronomical Satellite,
H. H. Aumann, R. G. Walker 537
Detectors for Infrared Astronomy,
F. C. Gillett, E. L. Dereniak, R. R. Joyce 544
A 102-cm Balloon-Borne Telescope for Far-Infrared Astronomy,
G. G. Fazio 551
The Imperial College 41-Inch Telescope for Far-Infrared Balloon Astronomy,
R. D. Joseph, J. Allen, W. P. S. Meikle, K. C. Sugden, M. F. Kessler, D. L. Rosen, G. Masson 558
Infrared Upconversion for Astronomy,
Robert W. Boyd. 563
Design and Operation of an Infrared Spatial Interferometer,
D. W. McCarthy, F. J. Low, R. Howell . . 569
Development of Solar Tower Program in the United States,
Lorin L. Vant-Hull 575
Detection and Coding of Edges Using Directional Masks,
Guner S. Robinson 580
First Order Optics of a Typical and of a Myopic Eye,
R. H. Noble 586
A Simple Model of Flare Light in Microdensitometers,
Joseph M. Geary 592
New Criteria for the Evaluation of Interchangeable Lenses for 135 Cameras,
Hideki Kondo, Humio Yamaoka 601
Optical Cross-Correlation of Complex Exponentiated Input Data,
W. M. Göpfert, A. A. Read. 605

Index of Authors

Abel, Irving R., 16:3:241
Alger, D. L., 16:5:505
Allen, J., 16:6:558
Appels, Johannes T., 16:4:332
Arnold, J. B., 16:4:324
Arnold, J. B., 16:4:347
Aumann, H. H., 16:6:537
Azzam, R. M. A., 16:5:513

Baechler, T., 16:5:493
Baily, Norman A., 16:1:23
Barnes, Jr., William P., 16:4:320
Barrett, J. J., 16:1:85
Baum, Sidney J., 16:3:291
Benassi, A., 16:2:187
Blevins, D. J., 16:4:381
Block, Myron J., 16:4:406
Boehm, R., 16:5:493
Bogess, N. W., 16:6:528
Boyd, D. P., 16:1:37
Boyd, J. R., 16:5:452
Boyd, Robert W., 16:6:563
Bradley, William C., 16:3:249
Bruce, Rufus E., 16:4:417
Burgess, E. L., 16:3:305
Burns, Vance, 16:5:432

Cedwallender, W. K., 16:3:313
Calkins, J. L., 16:2:212
Campana, S. B., 16:3:267
Cantella, Michael J., 16:3:257
Carr, Paul H., 16:5:425
Carr, Paul H., 16:5:440
Casasent, David, 16:3:295
Casasent, David, 16:4:402
Chan, J., 16:1:11
Chang, I. C., 16:5:455
Cho, Z. H., 16:1:11
Choisser, John P., 16:3:262
Church, E. L., 16:4:360
Clark, A. F., 16:4:393
Coello-Vera, A. E., 16:5:426

Daniels, Gerald M., 16:1:66
Davis, David O., 16:1:52
Dennis, Michael J., 16:1:6
Dereniak, E. L., 16:6:544
Drummeter, L. F., 16:2:111
Dunning, J. W., 16:5:505

Elliott, Scott, 16:5:432

Fazio, G. G., 16:6:551
Fontana, J., 16:5:426
Frieser, R. G., 16:5:518

Geary, Joseph M., 16:6:592
Gedgaudas, Eugene, 16:1:28
Gelbwachs, Jerry A., 16:2:197
Geller, M., 16:2:140
Gillett, F. C., 16:6:544
Goodenough, David J., 16:1:52
Göpfert, W. M., 16:6:605
Green, Milton, 16:2:167

Hall, James A., 16:3:224
Hamilton, M. C., 16:5:475
Hariharan, P., 16:5:520
Hecht, D. L., 16:5:461
Hendee, William R., 16:1:5
Hirschfeld, Tomas, 16:4:406
Hochheimer, B. F., 16:2:212
Hoffman, R. A., 16:4:338
Houston, Jr., Joseph B., 16:5:425
Hovis, W. A., 16:2:158
Howell, R., 16:6:569
Hughes, Joseph B., 16:2:152
Huppi, Ronald J., 16:5:485

Iwasa, Sato, 16:3:233

Janke, S., 16:5:493
Jensinson, H. A., 16:4:360
Johnson, Floyd E., 16:4:387
Joseph, R. D., 16:6:558

Joyce, R. R., 16:6:544

Karo, Douglas P., 16:1:72
Kay, David B., 16:1:45
Kemp, John C., 16:4:412
Kessler, M. F., 16:6:558
Kessler, Richard, 16:4:402
Kim, Dae M., 16:2:189
Kirkland, Leland R., 16:1:32
Kondo, Hideki, 16:6:601
Korobkin, M. T., 16:1:37
Kurtz, R. L., 16:2:176

Lancashire, R. B., 16:5:505
Lange, W. J., 16:4:338
Lavan, M. J., 16:3:313
Lehr, C. G., 16:4:399
Leung, K. C., 16:2:158
Lin, Pei-Jan Paul, 16:3:302
Liu, H. K., 16:2:176
Low, F. J., 16:6:569

MacIntyre, William, 16:1:20
Mancini, P., 16:2:187
Manista, E. J., 16:5:505
Mansell, Dennis N., 16:4:355
Masson, G., 16:6:558
McCarthy, D. W., 16:6:569
McCullough, Edwin C., 16:1:28
McDavid, William D., 16:1:6
McNeil, Gomer T., 16:2:128
Meikle, W. P. S., 16:6:558
Mento, D. B., 16:4:399
Mertens, L. E., 16:2:111
Miceli, W. J., 16:5:475
Montgomery, Robert M., 16:5:425
Morgan, Tommie J., 16:1:32
Morris, T. O., 16:4:324
Moss, A., 16:1:37
Moulder, J. C., 16:4:393
Murray, Edward R., 16:3:284

Nelson, Richard D., 16:3:275
Noble, R. H., 16:6:586

O'Connell, Robert M., 16:5:440

Parks, Robert E., 16:4:332
Payne, J. Thomas, 16:1:28
Payne, William H., 16:1:6
Peters, J. R., 16:4:399
Pierluissi, Joseph H., 16:4:417
Politch, Jacob, 16:1:80

Rabson, T. A., 16:2:1[illegible]
Read, A. A., 16:6:605
Reeber, M. D., 16:5:518
Reich, Norbert E., 16:1:20
Reichelt, W. H., 16:4:381
Rive, A., 16:2:187
Robinson, Guner S., 16:5:479
Robinson, Guner S., 16:6:580
Rosen, D. L., 16:6:558
Roychoudhuri, Chandrasekhar, 16:2:173

Saito, T. T., 16:4:347
Saito, Theodore T., 16:4:355
Saito, Theodore T., 16:4:387
Sank, Victor J., 16:1:6
Schlussler, L., 16:5:426
Schneiderman, Arthur M., 16:1:72
Seidelmann, Frank E., 16:1:20
Shagam, R. N., 16:4:375
Shah, Rajiv R., 16:2:189
Shaw, William E., 16:4:417
Shivanandan, Kandiah, 16:6:532
Singh, M., 16:1:11
Slaby, J. G., 16:5:505
Sladky, R. E., 16:4:324
Sladky, R. E., 16:4:347
Sladky, R. E., 16:4:375
Sprague, Robert A., 16:5:467
Steel, W. H., 16:1:83
Stegeman, G. I., 16:5:446
Steger, P. J., 16:4:324
Steger, P. J., 16:4:347
Stone, Thomas, 16:1:28
Stubbs, R. M., 16:5:505
Sugden, K. C., 16:6:558
Sumner, Richard E., 16:4:332

Thompson, Brian J., 16:1:45
Tittel, F. K., 16:2:189
Tredwell, Timothy J., 16:3:237
Tubbs, Ray R., 16:1:20
Turner, W. C., 16:4:381

Van Damme, G. E., 16:3:313
Vant-Hull, Lorin L., 16:5:497
Vant-Hull, Lorin L., 16:6:575
Vatz, Bernard, 16:2:214

Wade, G., 16:5:426
Wade, Glen, 16:5:432
Waggener, Robert G., 16:1:6
Walker, R. G., 16:6:537
Walton, Philip W., 16:4:408
Wang, Keith, 16:5:432
Weaver, Kenneth E., 16:1:52
Webster, J., 16:5:493
Wells, W. H., 16:2:112
Wessel, John E., 16:2:197
White, M. B., 16:2:145
Wille, D. A., 16:5:475
Woodall, N. D., 16:4:347
Wyant, J. C., 16:4:375
Wyatt, Clair L., 16:4:412

Yamaoka, Humio, 16:6:601
Yao, S. K., 16:5:452
Young, E. H., 16:5:462

Zavada, J. M., 16:4:360
Zewail, A. H., 16:2:206

Subject Index

Acceptance Testing of a Computerized Tomographic Scanner, 16:1:28
Accuracy in a Forward Looking Infrared System, Radiometric, 16:3:241
Acoustic Holographic System Utilizing a Scanned Linear Array, Motion Limitations of an, 16:5:426
Acoustic Transducers for Potentially Sensitive Ultrasonic Imaging, Opto-, 16:5:432
Acoustic Wave (SAW) Devices, New Materials for Surface, 16:5:440
Acoustic Waves on Y-Z Lithium Niobate, Light Scattering from, 16:5:446
Acousto-Optic Devices, Spectrum Analysis Using, 16:5:461
Acousto-Optic Filters: An Overview, Tunable, 16:5:455
Acousto-Optic Modulator, Design Procedure for Wide Bandwidth, 16:5:452
Acousto-Optic Signal Correlators, Review of, 16:5:467
Acousto-Optics, Guest Editorial:, 16:5:425
Airborne Observatories, Infrared Instrumentation on NASA, 16:6:528
Alignment of Fluoroscopic Systems, A Device for Checking, 16:3:302
Analysis Using Acousto-Optic Devices, Spectrum, 16:5:461
Analyzer, Integrated Optical RF Spectrum, 16:5:475
Analyzers, Frequency-Mixing Detection of Polarization-Modulated Light Using Different Periodic, 16:5:513
Application of the High Resolution Return Beam Vidicon, 16:3:257
Applications of Diamond Turning to Infrared Optical Systems, 16:4:387
Applications of the Folded Spectrum, Optical Signal Processing, 16:4:402
Applications, NASA High-Power Carbon Dioxide Laser—A Versatile Tool for Laser, 16:5:505
Approach to Solar Tower Optics, Educated Ray Trace, 16:5:497
Array, Motion Limitations of an Acoustic Holographic System Utilizing a Scanned Linear, 16:5:426
Arrays for Multichannel Photon Counting, Detecting Photoelectron Images with Semiconductor, 16:3:262
Assessment, A Practical Method for Holographic Interference Fringe, 16:2:176
Assurance of Image Quality in CT Scanning, Development of a Phantom for Evaluation and, 16:1:52
Astronomical Satellite, Infrared, 16:6:537
Astronomical Telescopes, Rocket-Borne, 16:6:532
Astronomy, Detectors for Infrared, 16:6:544
Astronomy with Electro-Optical Image Sensors, Spaceborne, 16:3:249
Astronomy, Imperial College 41-Inch Telescope for Far-Infrared Balloon, 16:6:558
Astronomy, Infrared Upconversion for, 16:6:563
Astronomy, A 102-cm Balloon-Borne Telescope for Far-Infrared, 16:6:551
Atmosphere and Targets, Versatile Radiometer for Infrared Emission Measurements of the, 16:5:485

Baffling Systems, Terrestrial Measurement of the Performance of High-Rejection Optical, 16:4:412
Balloon Astronomy, Imperial College 41-Inch Telescope for Far-Infrared, 16:6:558
Balloon-Borne Telescope for Far-Infrared Astronomy, A 102-cm, 16:6:551
Basic Properties of Metal Optics, 16:4:320
Beam Vidicon, Application of the High Resolution Return, 16:3:257
Beams from a Laser, Prisms for Producing Slit, 16:1:83
Biological Fluids, Virometer: Real Time Virus Detection and Identification in, 16:4:406
Blue-Green Lasers for Ocean Optics, 16:2:145
Bone Density—A Comparative Study, In Vivo Determination of, 16:1:20
Build a Speckle Interferometer, How to, 16:1:72

Calibration of Photographic Film for the Measurement of Q-Switched Ruby-Laser Energy, 16:4:399
Calibration Procedure for Extending the Versatility of Thermovision Systems, 16:4:417
Camera, Three-Dimensional Radionuclide Tomography with Circular Ring Positron, 16:1:11
Camera Tubes?, Can Solid-State Imaging Devices Replace Television, 16:3:224
Cameras, New Criteria for the Evaluation of Interchangeable Lenses for 135, 16:6:601
Can Solid-State Imaging Devices Replace Television Camera Tubes?, 16:3:224
Carbon Dioxide Laser—A Versatile Tool for Laser Applications, NASA High-Power, 16:5:505
CCD Multiplexer, Direct Coupling of Five-Micrometer (Hg,Cd)Te Photovoltaic Detector and a, 16:3:233
Chamber Ionography System, Optically Projected X-Ray Images from a Sealed, 16:4:408
Charge Coupled Imagers, Techniques for Evaluating, 16:3:267
Charge Transfer Devices—The Silicon Approach, Infrared, 16:3:275
Circular Ring Positron Camera, Three-Dimensional Radionuclide Tomography with, 16:1:11
CO_2 Laser Fusion Systems, Metal Optics, 16:4:381
Coaxial Optical Transmitter-Receiver System, Limiting Range of Detection through Water in a Nearly, 16:2:167
Coding of Edges Using Directional Masks, Detection and, 16:6:580
Color Edge Detection, 16:5:479
Color, Remote Sensing of Ocean, 16:2:158
Combustion, Time-Resolved Spectroscopy of Laser-Initiated Metal, 16:4:393

(The) Commissioning of Computed-Tomography Scanners—An Overview, 16:1:32
Comparative Study, In Vivo Determination of Bone Density—A, 16:1:20
Complex Exponentiated Input Data, Optical Cross-Correlation of, 16:6:605
Computed Tomography (Guest Editorial), 16:1:5
Computerized Tomographic Scanner, Acceptance Testing of a, 16:1:28
Computed-Tomography Scanners—An Overview, The Commissioning of, 16:1:32
Computerized Tomographic Scanning, Engineering Status of, 16:1:37
Computerized Tomography Using Video Techniques, 16:1:23
Concentrated Sunlight, Photovoltaic Energy Conversion Using, 16:3:305
Contribution of Particles Pollution to Visibility, 16:1:80
Conversion Using Concentrated Sunlight, Photovoltaic Energy, 16:3:305
Correlators, Review of Acousto-Optic Signal, 16:5:467
Counting, Detecting Photoelectron Images with Semiconductor Arrays for Multichannel Photon, 16:3:262
Coupling of Five-Micrometer (Hg,Cd)Te Photovoltaic Detector and a CCD Multiplexer, Direct, 16:3:233
Criteria for the Evaluation of Interchangeable Lenses for 135 Cameras, New, 16:6:601
Cross-Correlation of Complex Exponentiated Input Data, Optical, 16:6:605
Crystal Displays, Polarizers for Liquid, 16:3:291
CT Scanning, Development of a Phantom for Evaluation and Assurance of Image Quality in, 16:1:52
CT Scanning, Preprocessing X-Ray Transmission Data in, 16:1:6

Data in CT Scanning, Preprocessing X-Ray Transmission, 16:1:6
Data, Optical Cross-Correlation of Complex Exponentiated Input, 16:6:605
Delayed Superposition, Passive Pulse Shaping Using, 16:2:173
Density—A Comparative Study, In Vivo Determination of Bone, 16:1:20
Dentistry, Laser Processes in Preventive, 16:5:493
Design and Fabrication of a Nonlinear Waxicon, 16:4:355
Design and Operation of an Infrared Spatial Interferometer, 16:6:569
Design Procedure for Wide Bandwidth Acousto-Optic Modulator, 16:5:452
Design for Underwater Television Viewing Systems, Optical, 16:2:152
Detecting Impurities in Liquids with Moire Patterns, 16:5:518
Detecting Photoelectron Images with Semiconductor Arrays for Multichannel Photon Counting, 16:3:262
Detection and Coding of Edges Using Directional Masks, 16:6:580
Detection, Color Edge, 16:5:479
Detection and Identification in Biological Fluids, Virometer: Real Time Virus, 16:4:406
Detection of Polarization-Modulated Light Using Different Periodic Analyzers, Frequency-Mixing, 16:5:513
Detection of Two-Micrometer Infrared Radiation, (Hg,Cd)Te Photodiodes for, 16:3:237
Detection through Water in a Nearly Coaxial Optical Transmitter-Receiver System, Limiting Range of, 16:2:167
Detector and a CCD Multiplexer, Direct Coupling of Five-Micrometer (Hg,Cd)Te Photovoltaic, 16:3:233
Detectors for Infrared Astronomy, 16:6:544
Determination of Bone Density—A Comparative Study, In Vivo, 16:1:20
Development of a Phantom for Evaluation and Assurance of Image Quality in CT Scanning, 16:1:52
Development of Solar Tower Program in the United States, 16:6:575
(A) Device for Checking Alignment of Fluoroscopic Systems, 16:3:302
Devices, New Materials for Surface Acoustic Wave (SAW), 16:5:440
Devices Replace Television Camera Tubes?, Can Solid-State Imaging, 16:3:224
Devices, Spectrum Analysis Using Acousto-Optic, 16:5:461
Diamond-Turned Metal Mirrors, Optical Figure Inspection of, 16:4:375
Diamond-Turned Metal Surfaces by Differential Light Scattering, Measurement of the Finish of, 16:4:360
Diamond-Turning to Infrared Optical Systems, Applications of, 16:4:387
Differential Light Scattering, Measurement of the Finish of Diamond-Turned Metal Surfaces by, 16:4:360
Diffusion of Light in the Sea, 16:2:112
Direct Coupling of Five-Micrometer (Hg,Cd)Te Photovoltaic Detector and a CCD Multiplexer, 16:3:233
Directional Masks, Detection and Coding of Edges Using, 16:6:580
Discretely Tunable Infrared Lasers, Remote Measurement of Gases Using, 16:3:284
Display, Photorefractive Materials for Optical Storage and, 16:2:189
Displays, Polarizers for Liquid Crystal, 16:3:291
DKDP (Potassium Dideuterium Phosphate) Light Valves, 16:3:295
Doppler-Free Two-Photon Spectroscopy Applied to Molecular Electronic Transitions, 16:2:197

Edge Detection, Color, 16:5:479
Edges Using Directional Masks, Detection and Coding of, 16:6:580
Educated Ray Trace Approach to Solar Tower Optics, 16:5:497
Electronic Transitions, Doppler-Free Two-Photon Spectroscopy Applied to Molecular, 16:2:197
Electro-Optical Image Sensors, Spaceborne Astronomy with, 16:3:249
Emission Measurement of the Atmosphere and Targets, Versatile Radiometer for Infrared, 16:5:485
Energy, Calibration of Photographic Film for the Measurement of Q-Switched Ruby-Laser, 16:4:399
Energy Conversion Using Concentrated Sunlight, Photovoltaic, 16:3:305
Engineering Status of Computerized Tomographic Scanning, 16:1:37
Evaluating Charge Coupled Imagers, Techniques for, 16:3:267
Evaluation and Assurance of Image Quality in CT Scanning, Development of a Phantom for, 16:1:52
Evaluation of Interchangeable Lenses for 135 Cameras, New Criteria for the, 16:6:601
Exponentiated Input Data, Optical Cross-Correlation of Complex, 16:6:605
Extending the Versatility of Thermovision Systems, Calibration Procedure for, 16:4:417
Eye, First-Order Optics of a Typical and of a Myopic, 16:6:586

Fabrication of a Nonlinear Waxicon, Design and, 16:4:355
Far-Infrared Astronomy, A 102-cm Balloon-Borne Telescope for, 16:6:551
Far-Infrared Balloon Astronomy, Imperial College 41-Inch Telescope for, 16:6:558
Figure Inspection of Diamond-Turned Metal Mirrors, Optical, 16:4:375
Film for the Measurement of Q-Switched Ruby-Laser Energy, Calibration of Photographic, 16:4:399
Filters: An Overview, Tunable Acousto-Optic, 16:5:455
Finish of Diamond-Turned Metal Surfaces by Differential Light Scattering, Measurement of the, 16:4:360
First-Order Optics of a Typical and of a Myopic Eye, 16:6:586
Five-Micrometer (Hg,Cd)Te Photovoltaic Detector and a CCD Multiplexer, Direct Coupling of, 16:3:233
Flare Light in Microdensitometers, Simple Model of, 16:6:592
Flashbulbs, The Integrated Radiance of, 16:2:212
Fluids, Virometer: Real Time Virus Detection and Identification in Biological, 16:4:406
Fluoroscopic Systems, A Device for Checking Alignment of, 16:3:302
Folded Spectrum, Optical Signal Processing Applications of the, 16:4:402
Forward Looking Infrared System, Radiometric Accuracy in a, 16:3:241
Frequency-Mixing Detection of Polarization-Modulated Light Using Different Periodic Analyzers, 16:5:513
Fringe Assessment, A Practical Method for Holographic Interference, 16:2:176
Full-View Rainbow Holograms, Simple, 16:5:520
Fundamentals of Underwater Lens System, Metrical, 16:2:128
Fusion Systems, Metal Optics in CO_2 Laser, 16:4:381

Gases, Interferometric Investigations of Rotational Raman Spectra of, 16:1:85
Gases Using Discretely Tunable Infrared Lasers, Remote Measurement of, 16:3:284
Guest Editorial: Acousto-Optics, 16:5:425
Gyroscope, Possible Use of a Mach-Zehnder Heterodyne Interferometer as a, 16:3:313

Heterodyne Interferometer as a Gyroscope, Possible Use of a Mach-Zehnder, 16:3:313
(Hg,Cd)Te Photodiodes for Detection of Two-Micrometer Infrared Radiation, 16:3:237
(Hg,Cd)Te Photovoltaic Detector and a CCD Multiplexer, Direct Coupling of a Five-Micrometer, 16:3:233
High-Power Carbon Dioxide Laser—A Versatile Tool for Laser Applications, NASA, 16:5:505
High-Rejection Optical Baffling Systems, Terrestrial Measurement of the Performance of, 16:4:412
High Resolution Return Beam Vidicon, Application of the, 16:3:257
Holograms, Simple Full-View Rainbow, 16:5:520
Holographic Interference Fringe Assessment, A Practical Method for, 16:2:176
Holographic System Utilizing a Scanned Linear Array, Motion Limitations of an Acoustic, 16:5:426

How to Build a Speckle Interferometer, 16:1:72

Identification in Biological Fluids, Virometer: Real Time Virus Detection and, 16:4:406
Image Quality in CT Scanning, Development of a Phantom for Evaluation and Assurance of, 16:1:52
Image Reconstruction, Optical Processing in Radionuclide Tomographic, 16:1:45
Image Sensors, Spaceborne Astronomy with Electro-Optical, 16:3:249
Imagers, Techniques for Evaluating Charge Coupled, 16:3:267
Images from a Sealed Chamber Ionography System, Optically Projected X-Ray, 16:4:408
Images with Semiconductor Arrays for Multichannel Photon Counting, Detecting Photoelectron, 16:3:262
Imaging Devices Replace Television Camera Tubes?, Can Solid-State, 16:3:224
Imaging, Opto-Acoustic Transducers for Potentially Sensitive Ultrasonic, 16:5:432
Imperial College 41-Inch Telescope for Far-Infrared Balloon Astronomy, 16:6:558
(An) Improved Light Pen for Storage Oscilloscopes, 16:2:187
Impurities in Liquids with Moire Patterns, Detection, 16:5:518
Incoherent Underwater Optical Sources, 16:2:140
Infrared Astronomical Satellite, 16:6:537
Infrared Astronomical Telescopes, Rocket-Borne, 16:6:532
Infrared Astronomy, Detectors for, 16:6:544
Infrared Charge Transfer Devices—The Silicon Approach, 16:3:275
Infrared Emission Measurement of the Atmosphere and Targets, Versatile Radiometer for, 16:5:485
Infrared Instrumentation on NASA Airborne Observatories, 16:6:528
Infrared Lasers, Remote Measurement of Gases Using Discretely Tunable, 16:3:284
Infrared Optical Systems, Applications of Diamond-Turning to, 16:4:387
Infrared Radiation, (Hg,Cd)Te Photodiodes for Detection of Two-Micrometer, 16:3:237
Infrared Spatial Interferometer, Design and Operation of an, 16:6:569
Infrared System, Radiometric Accuracy in a Forward Looking, 16:3:241
Infrared Upconversion for Astronomy, 16:6:563
Infrared Window Materials and Metals, Machinability Studies of, 16:4:324
Input Data, Optical Cross-Correlation of Complex Exponentiated, 16:6:605
Inspection of Diamond-Turned Metal Mirrors, Optical Figure, 16:4:375
Instrumentation on NASA Airborne Observatories, Infrared, 16:6:528
Integrated Optical RF Spectrum Analyzer, 16:5:475
(The) Integrated Radiance of Flashbulbs, 16:2:212
Interchangeable Lenses for 135 Cameras, New Criteria for the Evaluation of, 16:6:601
Interference Fringe Assessment, A Practical Method for Holographic, 16:2:176
Interferometer, Design and Operation of an Infrared Spatial, 16:6:569
Interferometer as a Gyroscope, Possible Use of a Mach-Zehnder Heterodyne, 16:3:313
Interferometer, How to Build a Speckle, 16:1:72
Interferometric Investigations of Rotational Raman Spectra of Gases, 16:1:85
Investigations of Rotational Raman Spectra of Gases, Interferometric, 16:1:85
In Vivo Determination of Bone Density—A Comparative Study, 16:1:20
Ionography System, Optically Projected X-Ray Images From a Sealed Chamber, 16:4:408
Ion Polishing of Metal Surfaces, 16:4:338

Laser Applications, NASA High-Power Carbon Dioxide Laser—A Versatile Tool for, 16:5:505
Laser Fusion Systems, Metal Optics in CO_2, 16:4:381
Laser-Initiated Metal Combustion, Time-Resolved Spectroscopy of, 16:4:393
Laser, Prisms for Producing Slit Beams from a, 16:1:83
Laser Processes in Preventive Dentistry, 16:5:493
Laser Techniques for Time-Resolved Spectroscopy, New, 16:2:206
Laser—A Versatile Tool for Laser Applications, NASA High-Power Carbon Dioxide, 16:5:505
Lasers for Ocean Optics, Blue-Green, 16:2:145
Lasers, Remote Measurement of Gases Using Discretely Tunable Infrared, 16:3:284
Lenses for 135 Cameras, New Criteria for the Evaluation of Interchangeable, 16:6:601
Lens System, Metrical Fundamentals of Underwater, 16:2:128
Light in Microdensitometers, Simple Model of Flare, 16:6:592
Light Pen for Storage Oscilloscopes, An Improved, 16:2:187
Light Scattering from Acoustic Waves on Y-Z Lithium Niobate, 16:5:446
Light Scattering, Measurement of the Finish of Diamond-Turned Metal Surfaces by Differential, 16:4:360
Light in the Sea, Diffusion of, 16:2:112
Light Valves, DKDP (Potassium Dideuterium Phosphate), 16:3:295
Limitations of an Acoustic Holographic System Utilizing a Scanned Linear Array, Motion, 16:5:426
Limiting Range of Detection through Water in a Nearly Coaxial Optical Transmitter-Receiver System, 16:2:167
Linear Array, Motion Limitations of an Acoustic Holographic System Utilizing a Scanned, 16:5:426
Liquid Crystal Displays, Polarizers for, 16:3:291
Liquids with Moire Patterns, Detecting Impurities in, 16:5:518
Lithium Niobate, Light Scattering from Acoustic Waves on Y-Z, 16:5:446

Machinability Studies of Infrared Window Materials and Metals, 16:4:324
Machining Nonconventional-Shaped Optics, 16:4:347
Mach-Zehnder Heterodyne Interferometer as a Gyroscope, Possible Use of a, 16:3:313
Masks, Detection and Coding of Edges Using Directional, 16:6:580
Materials and Metals, Machinability Studies of Infrared Window, 16:4:324
Materials for Optical Storage and Display, Photorefractive, 16:2:189
Materials for Surface Acoustic Wave (SAW) Devices, New, 16:5:440
Measurements of the Atmosphere and Targets, Versatile Radiometer for Infrared Emission, 16:5:485
Measurement of the Finish of Diamond-Turned Metal Surfaces by Differential Light Scattering, 16:4:360
Measurement of Gases Using Discretely Tunable Infrared Lasers, Remote, 16:3:284
Measurement of the Performance of High-Rejection Optical Baffling Systems, Terrestrial, 16:4:412
Measurement of Q-Switched Ruby-Laser Energy, Calibration of Photographic Film for the, 16:4:399
Metal Combustion, Time-Resolved Spectroscopy of Laser-Initiated, 16:4:393
Metal Mirrors, Optical Figure Inspection of Diamond-Turned, 16:4:375
Metal Optics, Basic Properties of, 16:4:320
Metal Optics in CO_2 Laser Fusion Systems, 16:4:381
Metal Surfaces by Differential Light Scattering, Measurement of the Finish of Diamond-Turned, 16:4:360
Metal Surfaces, Ion Polishing of, 16:4:338
Metals, Machinability Studies of Infrared Window Materials and, 16:4:324
Metals, Observations on the Polishing of, 16:4:332
Method for Holographic Interference Fringe Assessment, A Practical, 16:2:176
Metrical Fundamentals of Underwater Lens System, 16:2:128
Microdensitometers, Simple Model of Flare Light in, 16:6:592
Mirrors, Optical Figure Inspection of Diamond-Turned Metal, 16:4:375
Model of Flare Light in Microdensitometers, Simple, 16:6:592
Model for Satellite Search Systems, A Night Sky, 16:1:66
Modulator, Design Procedure for Wide Bandwidth Acousto-Optic, 16:5:452
Moire Patterns, Detecting Impurities in Liquids with, 16:5:518
Molecular Electronic Transitions, Doppler-Free Two-Photon Spectroscopy Applied to, 16:2:197
Motion Limitations of an Acoustic Holographic System Utilizing a Scanned Linear Array, 16:5:426
Multichannel Photon Counting, Detecting Photoelectron Images with Semiconductor Arrays for, 16:3:262
Multiplexer, Direct Coupling of Five-Micrometer (Hg,Cd)Te Photovoltaic Detector and a CCD, 16:3:233
Myopic Eye, First-Order Optics of a Typical and of a, 16:6:586

NASA Airborne Observatories, Infrared Instrumentation on, 16:6:528
NASA High-Power Carbon Dioxide Laser—A Versatile Tool for Laser Applications, 16:5:505
Nearly Coaxial Optical Transmitter-Receiver System, Limiting Range of Detection through Water in a, 16:2:167
New Criteria for the Evaluation of Interchangeable Lenses for 135 Cameras, 16:6:601
New Laser Techniques for Time-Resolved Spectroscopy, 16:2:206
New Materials for Surface Acoustic Wave (SAW) Devices, 16:5:440
(A) Night Sky Model for Satellite Search Systems, 16:1:66
Nonconventional-Shaped Optics, Machining, 16:4:347
Nonlinear Waxicon, Design and Fabrication of a, 16:4:355

Observations on the Polishing of Metals, 16:4:332
Observatories, Infrared Instrumentation on NASA Airborne, 16:6:528
Ocean Color, Remote Sensing of, 16:2:158

Ocean Optics (Guest Editorial), 16:2:111
Ocean Optics, Blue-Green Lasers for, 16:2:145
A 102-cm Balloon-Borne Telescope for Far-Infrared Astronomy, 16:6:551
Operation of an Infrared Spatial Interferometer, Design and, 16:6:569
-Optic Devices, Spectrum Analysis Using Acousto, 16:5:461
-Optic Filters: An Overview, Tunable Acousto, 16:5:455
Optic Modulator, Design Procedure for Wide Bandwidth Acousto-, 16:5:452
-Optic Signal Correlators, Review of Acousto, 16:5:467
Optical Baffling Systems, Terrestrial Measurement of the Performance of High-Rejection, 16:4:412
Optical Cross-Correlation of Complex Exponentiated Input Data, 16:6:605
Optical Design for Underwater Television Viewing Systems, 16:2:152
Optical Figure Inspection of Diamond-Turned Metal Mirrors, 16:4:375
Optical Processing in Radionuclide Tomographic Image Reconstruction, 16:1:45
Optical RF Spectrum Analyzer, Integrated, 16:5:475
Optical Signal Processing Applications of the Folded Spectrum, 16:4:402
Optical Signal Processor Terminology, 16:2:214
Optical Sources, Incoherent Underwater, 16:2:140
Optical Storage and Display, Photorefractive Materials for, 16:2:189
Optical Systems, Applications of Diamond-Turning to Infrared, 16:4:387
Optical Transmitter-Receiver System, Limiting Range of Detection through Water in a Nearly Coaxial, 16:2:167
Optically Projected X-Ray Images from a Sealed Chamber Ionography System, 16:4:408
Optics, Basic Properties of Metal, 16:4:320
Optics, Blue-Green Lasers for Ocean, 16:2:145
Optics in CO_2 Laser Fusion Systems, Metal, 16:4:381
Optics, Educated Ray Trace Approach to Solar Tower, 16:5:497
Optics, Guest Editorial: Acousto-, 16:5:425
Optics, Machining Nonconventional-Shaped, 16:4:347
Optics, Ocean (Guest Editorial), 16:2:111
Optics of a Typical and of a Myopic Eye, First-Order, 16:6:586
Opto-Acoustic Transducers for Potentially Sensitive Ultrasonic Imaging, 16:5:432
Oscilloscopes, An Improved Light Pen for Storage, 16:2:187

Particles Pollution to Visibility, Contribution of, 16:1:80
Passive Pulse Shaping Using Delayed Superposition, 16:2:173
Patterns, Detecting Impurities in Liquids with Moire, 16:5:518
Pen for Storage Oscilloscopes, An Improved Light, 16:2:187
Performance of High-Rejection Optical Baffling Systems, Terrestrial Measurements of the, 16:4:412
Periodic Analyzers, Frequency-Mixing Detection of Polarization-Modulated Light Using Different, 16:5:513
Phantom for Evaluation and Assurance of Image Quality in CT Scanning, Development of a, 16:1:52
Photodiodes for Detection of Two-Micrometer Infrared Radiation, (Hg,Cd)Te, 16:3:237
Photoelectron Images with Semiconductor Arrays for Multichannel Photon Counting, Detecting, 16:3:262
Photographic Film for the Measurement of Q-Switched Ruby-Laser Energy, Calibration of, 16:4:399
Photon Counting, Detecting Photoelectron Images with Semiconductor Arrays for Multichannel, 16:3:262
Photorefractive Materials for Optical Storage and Display, 16:2:189
Photovoltaic Detector and a CCD Multiplexer, Direct Coupling of Five-Micrometer (Hg,Cd)Te, 16:3:233
Photovoltaic Energy Conversion Using Concentrated Sunlight, 16:3:305
Polarization-Modulated Light Using Different Periodic Analyzers, Frequency-Mixing Detection of, 16:5:513
Polarizers for Liquid Crystal Displays, 16:3:291
Polishing of Metal Surfaces, Ion, 16:4:338
Polishing of Metals, Observations on, 16:4:332
Pollution to Visibility, Contribution of Particles, 16:1:80
Positron Camera, Three-Dimensional Radionuclide Tomography with Circular Ring, 16:1:11
Possible Use of a Mach-Zehnder Heterodyne Interferometer as a Gyroscope, 16:3:313
(Potassium Dideuterium Phosphate) Light Valves, DKDP, 16:3:295
Potentially Sensitive Ultrasonic Imaging, Opto-Acoustic Transducers for, 16:5:432
(A) Practical Method for Holographic Interference Fringe Assessment, 16:2:176
Preprocessing X-Ray Transmission Data in CT Scanning, 16:1:6
Preventive Dentistry, Laser Processes in, 16:5:493
Prisms for Producing Slit Beams from a Laser, 16:1:83
Procedure for Extending the Versatility of Thermovision Systems, Calibration, 16:4:417
Procedure for Wide Bandwidth Acousto-Optic Modulator, Design, 16:5:452
Processes in Preventive Dentistry, Laser, 16:5:493
Processing Applications of the Folded Spectrum, Optical Signal, 16:4:402
Processing in Radionuclide Tomographic Image Reconstruction, Optical, 16:1:45
Processor Terminology, Optical Signal, 16:2:214
Producing Slit Beams from a Laser, Prisms for, 16:1:83
Pulse Shaping Using Delayed Superposition, Passive, 16:2:173

Q-Switched Ruby-Laser Energy, Calibration of Photographic Film for the Measurement of, 16:4:399
Quality in CT Scanning, Development of a Phantom for Evaluation and Assurance of Image, 16:1:52

RF Spectrum Analyzer, Integrated Optical, 16:5:475
Radiance of Flashbulbs, The Integrated, 16:2:212
Radiation, (Hg,Cd)Te Photodiodes for Detection of Two-Micrometer Infrared, 16:3:237
Radiometer for Infrared Emission Measurements of the Atmosphere and Targets, Versatile, 16:5:485
Radiometric Accuracy in a Forward Looking Infrared System, 16:3:241
Radionuclide Tomographic Image Reconstruction, Optical Processing in, 16:1:45
Radionuclide Tomography with Circular Ring Positron Camera, Three-Dimensional, 16:1:11
Rainbow Holograms, Simple Full-View, 16:5:520
Raman Spectra of Gases, Interferometric Investigations of Rotational, 16:1:85
Range of Detection through Water in a Nearly Coaxial Optical Transmitter-Receiver System, Limiting, 16:2:167
Ray Trace Approach to Solar Tower Optics, Educated, 16:5:497
Real Time Virus Detection and Identification in Biological Fluids, Virometer, 16:4:406
Reconstruction, Optical Processing in Radionuclide Tomographic Image, 16:1:45
Remote Measurement of Gases Using Discretely Tunable Infrared Lasers, 16:3:284
Remote Sensing of Ocean Color, 16:2:158
Return Beam Vidicon, Application of the High Resolution, 16:3:257
Review of Acousto-Optic Signal Correlators, 16:5:467
Ring Positron Camera, Three-Dimensional Radionuclide Tomography with Circular, 16:1:11
Rocket-Borne Infrared Astronomical Telescopes, 16:6:532
Rotational Raman Spectra of Gases, Interferometric Investigations of, 16:1:85
Ruby-Laser Energy, Calibration of Photographic Film for the Measurement of Q-Switched, 16:4:399

(SAW) Devices, New Materials for Surface Acoustic Wave, 16:5:440
Satellite, Infrared Astronomical, 16:6:537
Satellite Search Systems, A Night Sky Model for, 16:1:66
Scanned Linear Array, Motion Limitations of an Acoustic Holographic System Utilizing a, 16:5:426
Scanner, Acceptance Testing of a Computerized Tomographic, 16:1:28
Scanners—An Overview, The Commissioning of Computed-Tomography, 16:1:32
Scanning, Development of a Phantom for Evaluation and Assurance of Image Quality in CT, 16:1:52
Scanning, Engineering Status of Computerized Tomographic, 16:1:37
Scanning, Preprocessing X-Ray Transmission Data in CT, 16:1:6
Scattering from Acoustic Waves on Y-Z Lithium Niobate, Light, 16:5:446
Scattering, Measurement of the Finish of Diamond-Turned Metal Surfaces by Differential Light, 16:4:360
Sea, Diffusion of Light in the, 16:2:112
Sealed Chamber Ionography System, Optically Projected X-Ray Images from a, 16:4:408
Search Systems, A Night Sky Model for Satellite, 16:1:66
Semiconductor Arrays for Multichannel Photon Counting, Detecting Photoelectron Images with, 16:3:262
Sensing of Ocean Color, Remote, 16:2:158
Sensitive Ultrasonic Imaging, Opto-Acoustic Transducers for Potentially, 16:5:432
Sensors, Spaceborne Astronomy with Electro-Optical Image, 16:3:249
Shaping Using Delayed Superposition, Passive Pulse, 16:2:173
Signal Correlators, Review of Acousto-Optic, 16:5:467
Signal Processing Applications of the Folded Spectrum, Optical, 16:4:402

Signal Processor Terminology, Optical, 16:2:214
Silicon Approach, Infrared Charge Transfer Devices—The, 16:3:275
Simple Full-View Rainbow Holograms, 16:5:520
Simple Model of Flare Light in Microdensitometers, 16:6:592
Sky Model for Satellite Search Systems, A Night, 16:1:66
Slit Beams from a Laser, Prisms for Producing, 16:1:83
Solar Tower Optics, Educated Ray Trace Approach to, 16:5:497
Solar Tower Program in the United States, Development of, 16:6:575
Solid-State Imaging Devices Replace Television Camera Tubes?, Can, 16:3:224
Sources, Incoherent Underwater Optical, 16:2:140
Spaceborne Astronomy with Electro-Optical Image Sensors, 16:3:249
Spatial Interferometer, Design and Operation of an Infrared, 16:6:569
Speckle Interferometer, How to Build a, 16:1:72
Spectra of Gases, Interferometric Investigations of Rotational Raman, 16:1:85
Spectroscopy Applied to Molecular Electronic Transitions, Doppler-Free Two-Photon, 16:2:197
Spectroscopy of Laser-Initiated Metal Combustion, Time-Resolved, 16:4:393
Spectroscopy, New Laser Techniques for Time-Resolved, 16:2:206
Spectrum Analysis Using Acousto-Optic Devices, 16:5:461
Spectrum Analyzer, Integrated Optical RF, 16:5:475
Spectrum, Optical Signal Processing Applications of the Folded, 16:4:402
Status of Computerized Tomographic Scanning, Engineering, 16:1:37
Storage and Display, Photorefractive Materials, for Optical, 16:2:189
Storage Oscilloscopes, An Improved Light Pen for, 16:2:187
Sunlight, Photovoltaic Energy Conversion Using Concentrated, 16:3:305
Superposition, Passive Pulse Shaping Using Delayed, 16:2:173
Surface Acoustic Wave (SAW) Devices, New Materials for, 16:5:440
Surfaces by Differential Light Scattering, Measurement of the Finish of Diamond-Turned Metal, 16:4:360
Surfaces, Ion Polishing of Metal, 16:4:338
System, Limiting Range of Detection through Water in a Nearly Coaxial Optical Transmitter-Receiver, 16:2:167
System, Metrical Fundamentals of Underwater Lens, 16:2:128
Systems, A Device for Checking Alignment of Fluoroscopic, 16:3:302
Systems, A Night Sky Model for Satellite Search, 16:1:66
Systems, Optical Design for Underwater Television Viewing, 16:2:152

Targets, Versatile Radiometer for Infrared Emission Measurements of the Atmosphere and, 16:5:485
Techniques for Evaluating Charge Coupled Imagers, 16:3:267
Techniques for Time-Resolved Spectroscopy, New Laser, 16:2:206
Telescope for Far-Infrared Astronomy, A 102-cm Balloon-Borne, 16:6:551
Telescope for Far-Infrared Balloon Astronomy, Imperial College 41-Inch, 16:6:558
Telescopes, Rocket-Borne Infrared Astronomical, 16:6:532
Television Camera Tubes?, Can Solid-State Imaging Devices Replace, 16:3:224
Television Viewing Systems, Optical Design for Underwater, 16:2:152
Terminology, Optical Signal Processor, 16:2:214
Terrestrial Measurement of the Performance of High-Rejection Optical Baffling Systems, 16:4:412
Testing of a Computerized Tomographic Scanner, Acceptance, 16:1:28
Thermovision Systems, Calibration Procedure for Extending the Versatility of, 16:4:417
Three-Dimensional Radionuclide Tomography with Circular Ring Positron Camera, 16:1:11
Time-Resolved Spectroscopy of Laser-Initiated Metal Combustion, 16:4:393
Time-Resolved Spectroscopy, New Laser Techniques for, 16:2:206
Tomographic Image Reconstruction, Optical Processing in Radionuclide, 16:1:45
Tomographic Scanner, Acceptance Testing of a Computerized, 16:1:28
Tomographic Scanning, Engineering Status of Computerized, 16:1:37
Tomography, Computed (Guest Editorial), 16:1:5
Tomography Scanners—An Overview, The Commissioning of Computed-, 16:1:32
Tomography Using Video Techniques, Computerized, 16:1:23
Tomography with Circular Ring Positron Camera, Three-Dimensional Radionuclide, 16:1:11
Trace Approach to Solar Tower Optics, Educated Ray, 16:5:497
Transducers for Potentially Sensitive Ultrasonic Imaging, Opto-Acoustic, 16:5:432
Transitions, Doppler-Free Two-Photon Spectroscopy Applied to Molecular Electronic, 16:2:197
Transmission Data in CT Scanning, Preprocessing X-Ray, 16:1:6
Transmitter-Receiver System, Limiting Range of Detection through Water in a Nearly Coaxial Optical, 16:2:167
Tool for Laser Applications, NASA High-Power Carbon Dioxide Laser—A Versatile, 16:5:505
Tower Optics, Educated Ray Trace Approach to Solar, 16:5:497
Tubes?, Can Solid-State Imaging Devices Replace Television Camera, 16:3:224
Tunable Acousto-Optic Filters: An Overview, 16:5:455
Two-Micrometer Infrared Radiation, (Hg,Cd)Te Photodiodes for Detection of, 16:3:237
Two-Photon Spectroscopy Applied to Molecular Electronic Transitions, Doppler-Free, 16:2:197
Typical and of a Myopic Eye, First-Order Optics of a, 16:6:586

Ultrasonic Imaging, Opto-Acoustic Transducers for Potentially Sensitive, 16:5:432
Underwater Lens System, Metrical Fundamentals of, 16:2:128
Underwater Optical Sources, Incoherent, 16:2:140
Underwater Television Viewing Systems, Optical Design for, 16:2:152
Upconversion for Astronomy, Infrared, 16:6:563

Valves, DKDP (Potassium Dideuterium Phosphate) Light, 16:3:295
Versatile Radiometer for Infrared Emission Measurements of the Atmosphere and Targets, 16:5:485
Versatile Tool for Laser Applications, NASA High-Power Carbon Dioxide Laser—A, 16:5:505
Versatility of Thermovision Systems, Calibration Procedure for Extending the, 16:4:417
Video Techniques, Computerized Tomography Using, 16:1:23
Vidicon, Application of the High Resolution Return Beam, 16:3:257
Viewing Systems, Optical Design for Underwater Television, 16:2:152
Virometer: Real Time Virus Detection and Identification in Biological Fluids, 16:4:406
Virus Detection and Identification in Biological Fluids, Virometer: Real Time, 16:4:406
Visibility, Contribution of Particles Pollution to, 16:1:80

Water in a Nearly Coaxial Optical Transmitter-Receiver System, Limiting Range of Detection through, 16:2:167
Wave (SAW) Devices, New Materials for Surface Acoustic, 16:5:440
Waves on Y-Z Lithium Niobate, Light Scattering from Acoustic, 16:5:446
Waxicon, Design and Fabrication of a Nonlinear, 16:4:355
Wide Bandwidth Acousto-Optic Modulator, Design Procedure for, 16:5:452
Window Materials and Metals, Machinability Studies of Infrared, 16:4:324

X-Ray Images from a Sealed Chamber Ionography System, Optically Projected, 16:4:408
X-Ray Transmission Data in CT Scanning, Preprocessing, 16:1:6

Y-Z Lithium Niobate, Light Scattering from Acoustic Waves on, 16:5:446